

Amendments to the Specification:

Please replace the paragraph starting on p. 9, line 8 with the following amended paragraph:

Preferably, the flow sensor 22 of the measuring device is mounted, with use of sensor assembly 21, to be a distance of about 1.5 - 3.5 times the diameter of the flow measurement section 19 from the inlet of the flow measurement section. In a preferred embodiment a constant temperature anemometer (CTA) type circuit is used with the sensor, however, any velocity sensor having substantially a single-point measuring portion can be used. One example is a pitot tube. As shown in FIG. [[7]] 1 the CTA type circuit utilizes two sensor elements 27 and 28, which are aligned with each other, and which have their measuring portion ends, ~~29 and 30~~, staggered along a longitudinal axis of the sensor. In a preferred embodiment a midpoint between the ends ~~29 and 30~~ is positioned on central longitudinal axis 26 of the flow measurement section as best viewed in FIGS. 2, 4, and 6 at a distance, which is described above, downstream from the nozzle. Leads of the sensor exit the fluid flow meter conditioning body through end 31 of the sensor assembly 21 and are preferably connected to CTA sensor circuitry (not shown) which uses a modified Wheatstone Bridge to accurately measure the electrical power required to maintain the temperature difference, as discussed above. Use of such electrical power, current, or voltage measurement to determine thermal mass flow rate is known in the art.

Please replace the Abstract with the following amended Abstract:

Method and device are provided for accurately measuring fluid flow in a conduit. A fluid flow meter conditioning body, in-line with the conduit, conditions the fluid flow so as to provide a flattened and invariant fluid velocity profile. The device provides high immunity to upstream and downstream non-uniform fluid velocity profiles. Fluid diffusers adapt the device to different conduit sizes, eliminate field welding and conduit fittings. In a preferred embodiment thermal convection mass flow sensors and circuitry are used to further improve the accuracy of the measurement of the fluid flow.

said inlet flow section, said flow nozzle and said flow measurement section are arranged along a longitudinal axis,

said inlet flow section, said flow nozzle and said flow measurement section communicate for fluid flow in a direction from the inlet flow section toward the flow measurement section, and

a cross section of said inlet flow section, perpendicular to said ~~central~~ longitudinal axis, is greater than a comparable cross section of said flow measurement section,

one of:

an elongated inlet flow diffuser upstream of said inlet flow section,

an elongated outlet flow diffuser downstream of said flow measurement section, and

an elongated inlet flow diffuser upstream of said inlet flow section and an elongated outlet flow diffuser downstream of said flow measurement section, wherein

each said diffuser is arranged along said longitudinal axis and communicates with the inlet flow section, the flow nozzle, and the flow measurement section for fluid flow therethrough.

Claim 3 (currently amended): The fluid flow meter conditioning body of claim 1, wherein said flow nozzle has a beta of between about 0.3 and 0.7.

Claim 4 (currently amended): The fluid flow meter conditioning body of claim 2, wherein said flow nozzle has a beta of between about 0.3 and 0.7.

Claim 5 (currently amended): The fluid flow meter conditioning body of claim 3, wherein said flow nozzle has a transition between the its inlet and the outlet having a profile, in a plane containing said ~~central~~ longitudinal axis, which is arc shaped, elliptically shaped, or bell-shaped.

Claim 6 (currently amended): The fluid flow meter conditioning body of claim 4, wherein said flow nozzle has a transition between the its inlet and the outlet having a profile, in a plane containing said ~~central~~ longitudinal axis, which is arc shaped, an elliptically shaped, or bell-shaped.

Claim 7 (original): The fluid flow meter conditioning body of claim 2, wherein

each inlet diffuser is of a length to obtain a half-angle expansion of about 6-9 degrees, and has a uniform transition between its inlet and outlet, and

each outlet diffuser is of a length to obtain a half-angle expansion of about 6-9 degrees, and has a uniform transition between its inlet and outlet.

Claim 8 (original): The fluid flow meter conditioning body of claim 1, wherein

said flow measurement section includes a sensor assembly for supporting said velocity sensor.

Claim 9 (original): The fluid flow meter conditioning body of claim 8, wherein

said sensor assembly supports said velocity sensor to be centered on a central longitudinal axis of said flow measurement section at a point along the length of the flow measurement section which is a distance of about 1.5-3.5 times the diameter of the flow measurement section.

Claim 10 (currently amended): The fluid flow meter conditioning body of claim 1, wherein

a central longitudinal axis of an inlet of said flow nozzle is displaced from a central longitudinal axis of an outlet of said nozzle, so as to form an eccentric nozzle.

Claim 11 (currently amended): The fluid flow meter conditioning body of claim 2, wherein

a central longitudinal axis of an inlet of said flow nozzle is displaced from a central longitudinal axis of an outlet of said nozzle, so as to form an eccentric nozzle, and

a central longitudinal axis of an inlet of each said diffuser is displaced from a central longitudinal axis of an outlet of each said diffuser, so as to form an eccentric diffuser.

Claim 12 (currently amended): A flow measurement system, comprising

a fluid flow meter conditioning body, for placement in-line of a fluid conveying conduit comprising

an elongated inlet flow section,

an elongated flow measurement section,

a flow nozzle intermediate said inlet flow section and said flow measurement section,
a velocity sensor within said flow measurement section, and
a velocity sensor electronic circuit, wherein

said inlet flow section, said flow nozzle and said flow measurement section are arranged along a longitudinal axis,

said inlet flow section, said flow nozzle and said flow measurement section communicate for fluid flow in a direction from the inlet flow section toward the flow measurement section, and

a cross section of said inlet flow section, perpendicular to said ~~central~~ longitudinal axis, is greater than a comparable cross section of said flow measurement section.

Claim 13 (currently amended): The flow measurement system of claim 12, further comprising one of

an elongated inlet flow diffuser upstream of said inlet flow section,

an elongated outlet flow diffuser downstream of said flow measurement section, and

an elongated inlet flow diffuser upstream of said inlet flow section and an elongated outlet flow diffuser downstream of said flow measurement section, wherein

each said diffuser is arranged along said longitudinal axis and communicates with the inlet flow section, the flow nozzle, and the flow measurement section for fluid flow therethrough.

Claim 14 (currently amended): The flow measurement system of claim 12, wherein said velocity sensor is a thermal convection mass flow sensor and ~~the~~ said electronic circuit is a constant power anemometer type or a constant temperature anemometer type.

Claim 15 (currently amended): The flow measurement system of claim 13, wherein said velocity sensor is a thermal convection mass flow sensor and said electronic circuit is a constant power anemometer type or a constant temperature anemometer type.